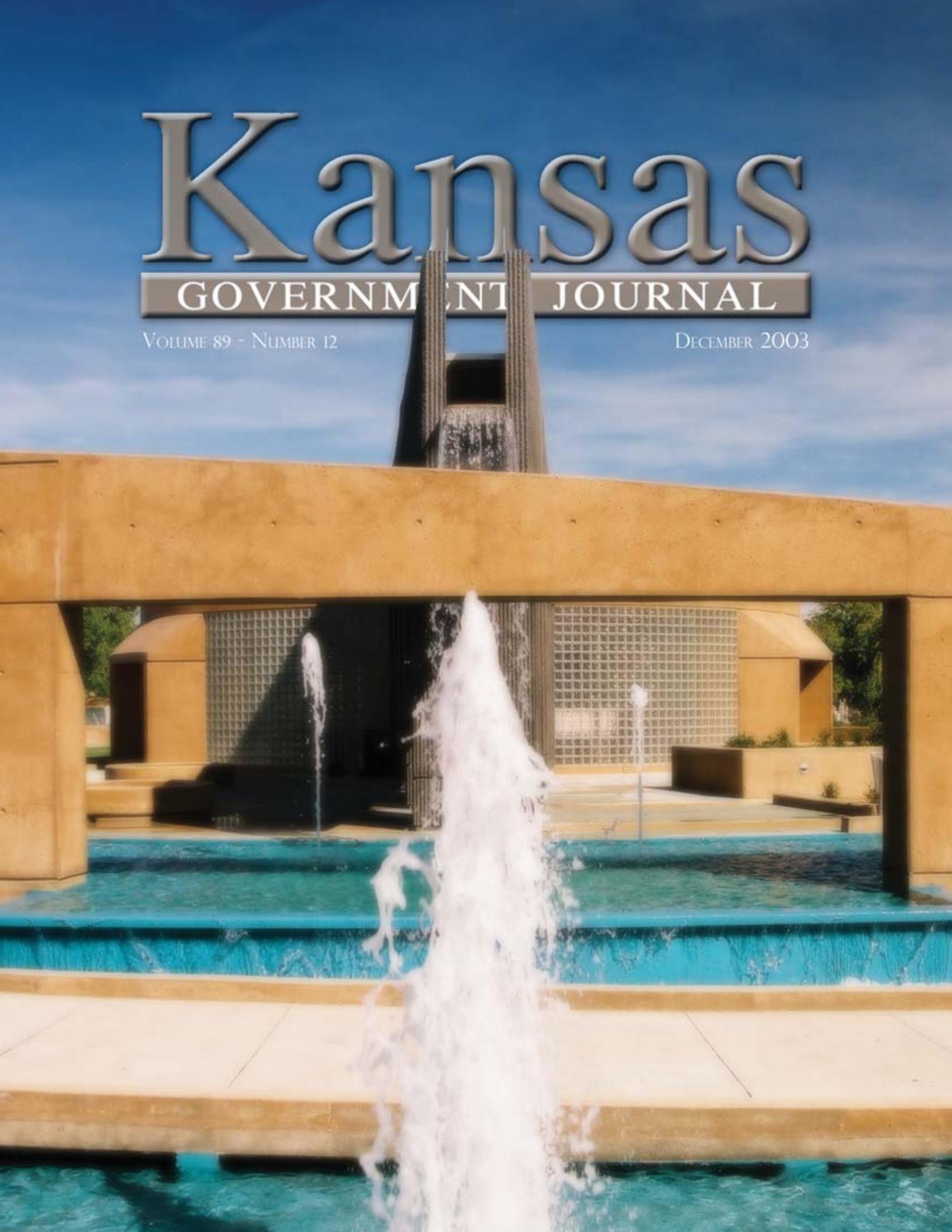

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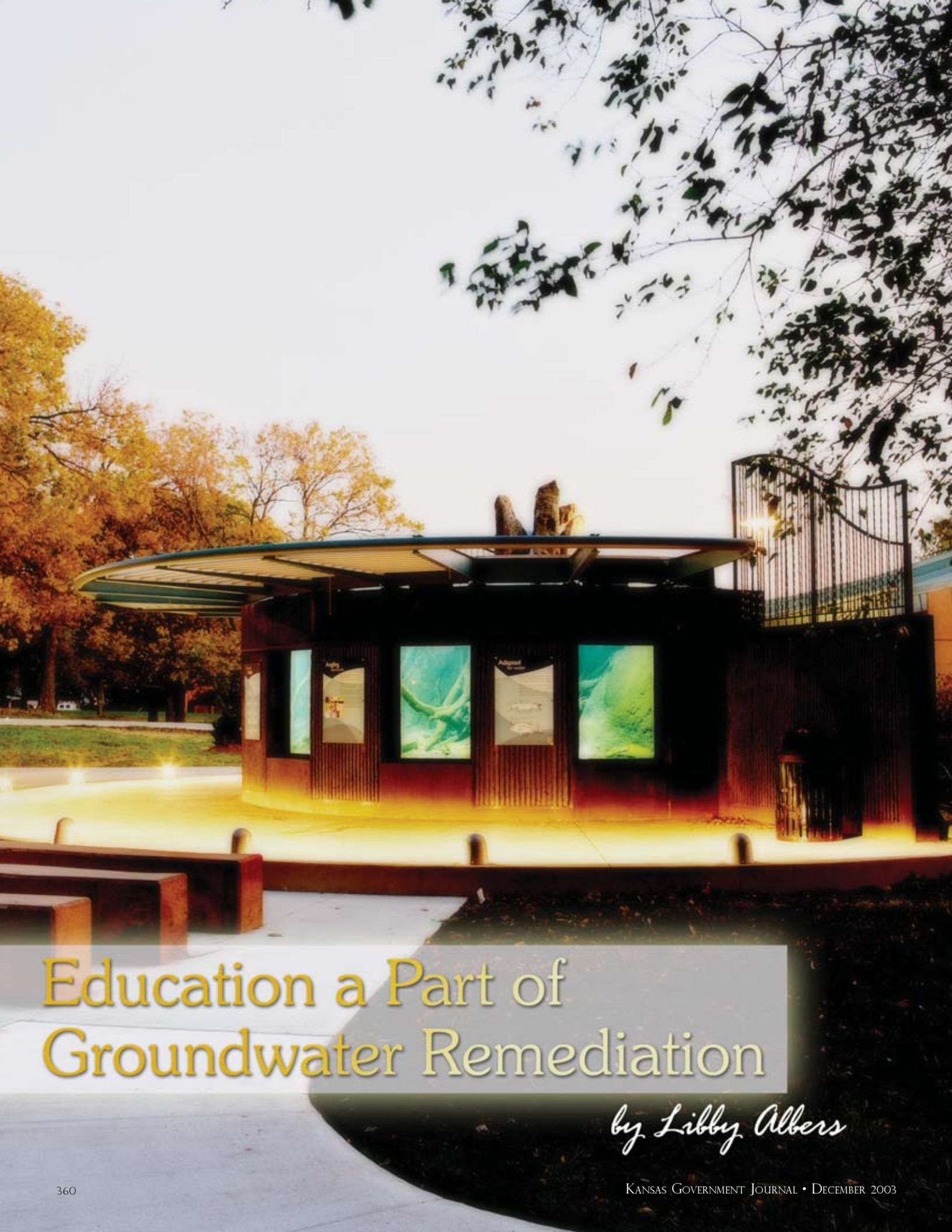


Education a Part of Groundwater Remediation

by Libby Albers

(Left) The remediated groundwater flows through an 11,000-gallon outdoor aquarium that features native Kansas fish. (Above) During evening hours, colored lights showcase the water and unique architecture. (Photos by Gavin Peters)

Wichita's Challenge

In 1991, routine testing of the groundwater detected contamination in the vicinity of downtown Wichita. The 2600-acre area discovered was dubbed the "Gilbert-Mosley Site" as these were the two streets that crossed at the point of first discovery of the contamination. Since then, investigations have broadened the site boundary to include a total of approximately 3850 acres.

Preliminary tests found the groundwater contaminated with varying concentrations of tetrachloroethene, trichloroethene (TCE), dichloroethene (DCE), vinyl chloride, and additional contaminants. Wichita's groundwater was contaminated with these chlorinated solvents as a result of historical industrial activities in the area.

A Unique Approach

The City chose to take the initiative in the clean-up project. With innovative thinking and financing, the City of Wichita agreed to comply with all investigation and clean-up requirements of the Kansas Department of Health and Environment (KDHE), which was overseeing the project on EPA's behalf. It was a win/win proposition for EPA and KDHE. If Wichita succeeded, it could claim a victory, thus avoiding many problems associated with Superfund projects. If the City failed, EPA and KDHE could rely on Superfund authority to require cleanup in other ways.

The City of Wichita received the prestigious Ford Foundation's Innovations in State and Local Government Award from Harvard University's John F. Kennedy School of Government, for forward-thinking leadership with the will to create revolutionary practices to accomplish community goals.

Implementing the Solution

On October 16, 2003, the Wichita Area Treatment, Education & Remediation (WATER) Center, the treatment center for the Gilbert-Mosley Project, celebrated its grand opening.

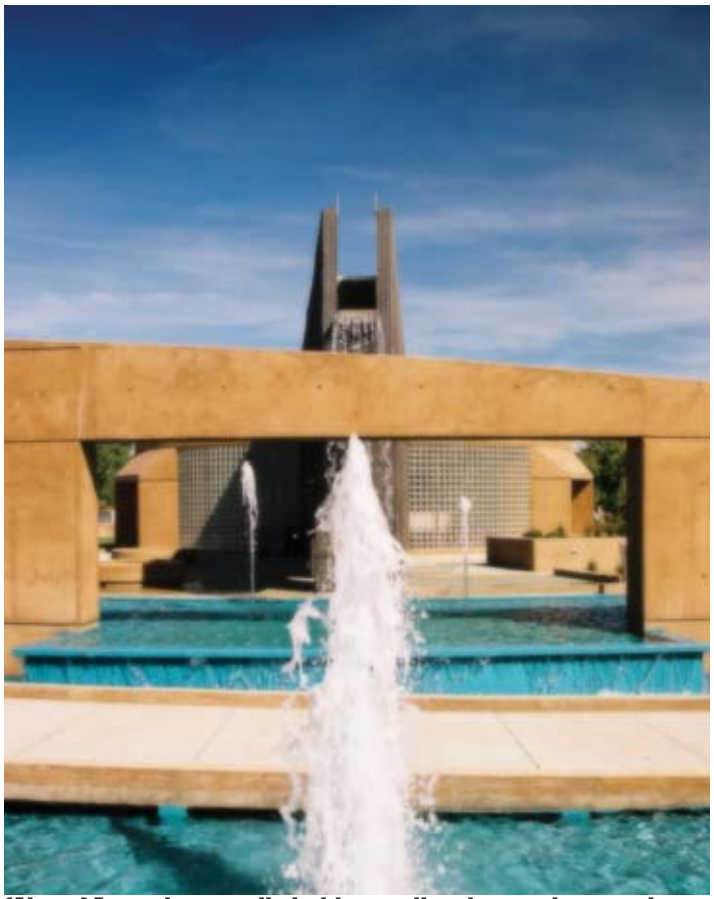
"The Gilbert & Mosley Project is considered to be one of the most innovative public-private partnerships ever created to solve the complex environmental problem of groundwater contamination," says Mayor Carlos Mayans. "This project has earned the City of Wichita national recognition for its development to avoid Superfund intervention and the impacts upon public health, environmental risks, and the local economy." Mayans served in the state legislature at the time forward-thinking legislation was passed to make the cleanup a reality.

The facility houses the equipment, a hydraulic-venturi air stripper treatment system, needed to clean the polluted groundwater, and is designed to encourage public interest and observation on how groundwater is remediated. The other half of the remediation system consists of 5.5 miles of conveyance piping and 13 extraction wells, which extract and convey the polluted groundwater to the WATER Center treatment facility. The system is operated to limit the spread of and to remove the groundwater contamination.

Awareness and Education

A one-of-a kind venture, the WATER Center offers a hands-on, interactive environmental center dedicated to the education and health issues caused by water and pollution. This facility has the potential to reach far outside the community affected by the Gilbert-Mosley contamination and to provide education for the understanding and prevention of many water pollution activities.

(Above) Venturi Air Strippers treat an average of 1.2 million gallons of groundwater per day. (Photo by Gavin Peters)



(Above) Fountains, supplied with remediated water, dance and bubble in the plaza pools. (Photo by Gavin Peters)

While exploring the treatment facility plaza, visitors learn the story of the Gilbert-Mosley Project and why the WATER Center was built. They learn how the local polluted groundwater is cleaned, how pollution can affect health, and what can be done to prevent future pollution. They can see a demonstration of various water-dependent landscapes as well as xeriscapes. The cleaned water supports all kinds of aquatic wildlife that can be viewed through "windows" in the outdoor fish observatory. A series of paths and bridges lead visitors along an artificial creek and eventually to the Arkansas River where the treated groundwater will join the river. The paths provide visitors viewing opportunities for other wildlife attracted to the creek as well as demonstrative exhibits on buffer strips and non-point source pollution.

Another opportunity for visitors is the environmental education building that houses a classroom, an aquarium, and exhibits focused on the Gilbert-Mosley project, pollution, and the unique and life-supporting qualities of water. The aquarium is home to native species such as minnows and offers information on why these small creatures are so dependent on water quality. In addition, the relationships between the geology and geography of the area, groundwater and surface waters are also explored.

Visitors to the WATER Center walk away with an understanding of water and groundwater, water pollution, and its prevention and cleanup process.

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